



The *Other* Opioid Crisis: Heroin and Fentanyl

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Disclosures

- Nothing to Disclose



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Learning Objectives

- Describe the opioid overdose crisis in the United States today
- Discuss common beliefs and inconsistencies about the role of prescription opioids in the opioid crisis
- Identify the intersection of illicit drug use and clinical pain practice in today's "opioid epidemic"
- Provide clinically relevant recommendations for navigating the current landscape without depriving pain care to patients in need



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Is There More than one Opioid Crisis?

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The Facts



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The Facts: No Lack of Media Attention



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The Facts

- People are dying...
- People are angry and reacting
- People are scared
- Overdoses from drugs (**ALL** drugs, legally prescribed or not) including opioids, hallucinogens, cocaine, etc.
 - ~ 72,000 deaths nationwide in 2017
 - ↑ 12% from 2016
 - More than 42,000 (~66%) involved some type of opioid
 - ****Some question accuracy regarding CDC overdose data and prescribed opioid analgesics****



PainWeek There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/features/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2018.

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The Facts

- Drug(s) Responsible May be Unknown
 - Overdose is usually about **RESPIRATORY DEPRESSION**
- Sometimes causes are not reported
 - May depend on the state
 - Trends can be difficult to identify
- This may lead to a lack of focus

Identifying drugs in overdose deaths in each state, 2016

STATE	ALL DEATHS	CASES IN WHICH DRUG(S) WAS SPECIFIED	
		TOTAL	SHARE
Alabama	999	473	47.3%
Alaska	4,627	2,052	44.4%
Arizona	758	308	40.7%
Arkansas	312	145	46.5%
California	3,508	1,647	47.0%
Colorado	282	99	35.1%
Connecticut	129	57	44.2%
Delaware	492	225	45.7%
Florida	4,728	1,244	26.3%
Georgia	242	59	24.4%
Hawaii	2,058	481	23.4%
Idaho	332	78	23.5%
Illinois	99	21	21.2%
Indiana	4,854	950	19.6%
Iowa	323	82	25.4%
Kansas	642	172	26.8%
Kentucky	1,439	253	17.6%
Louisiana	1,372	239	17.4%
Maine	77	11	14.3%
Massachusetts	1,392	198	14.2%

PainWeek There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/features/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2018.

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The Facts: Kentucky as an Example

The most common drugs found in Kentucky's overdose victims
Based on an analysis of 1,471 drug overdose deaths in 2016

Individual drugs		Two-drug combinations		Three-drug combinations	
DRUG	SHARE	DRUGS	SHARE	DRUGS	SHARE
Morphine	45.4%	Heroin, morphine	24.3%	Heroin, morphine, codeine	16.6%
Fentanyl	37.0%	Fentanyl, morphine	23.7%	Heroin, morphine, fentanyl	11.6%
Gabapentin	32.6%	Codeine, morphine	20.0%	Morphine, codeine, fentanyl	9.3%
Alprazolam	25.5%	Heroin, codeine	18.6%	Heroin, morphine, THC-COOH	7.9%
THC-COOH	24.9%	Gabapentin, morphine	14.2%	Heroin, codeine, fentanyl	7.6%
Heroin	24.7%	Morphine, THC-COOH	12.8%	Fentanyl, morphine, THC-COOH	7.3%
Codeine	20.7%	Alprazolam, morphine	12.6%	Alprazolam, heroin, morphine	7.3%
Ethanol	18.4%	Methamphetamine, amphetamine	12.0%	Gabapentin, heroin, morphine	7.1%
Oxycodone	17.2%	Heroin, fentanyl	11.7%	Gabapentin, fentanyl, morphine	6.8%
Methamphetamine	17.1%	Oxycodone, oxycodone	11.5%	Alprazolam, codeine, morphine	6.6%

PainWeek There is More Than One Opioid Crisis. To better tackle the epidemic, Kentucky needed to know which drugs were causing lethal overdoses. By Kathryn Caswell. Published Jan. 17, 2018. <https://thehighright.com/features/there-is-more-than-one-opioid-crisis/>. Accessed January 18, 2018.

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THE DENVER POST

NEWS HEALTH

The Facts

Colorado's opioid and heroin overdose deaths outnumbered homicides in 2015

Opiate deaths are catching up to alcohol-related liver disease deaths

By JOHN INGOLD | jingold@denverpost.com | The Denver Post
PUBLISHED: January 3, 2017 at 11:13 am | UPDATED: October 31, 2017 at 12:38 pm

Deaths in Colorado from opiate drugs vs. motor vehicle accidents

- All opiates (including Rx and heroin)
- Motor vehicle injuries

Drug poisoning deaths in Colorado

- Opiates
- Cocaine
- All Drug Poisoning

Made with ChartBuilder Source: Colorado Department of Public Health and Environment

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THE DENVER POST

NEWS HEALTH

The Facts

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Opiate deaths are catching up to alcohol-related liver disease deaths

Natural = prescription opioids

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Opiate overdose deaths in Colorado in 2015

- Nat. opioids
- Synth. opioids
- Methadone
- Heroin

Deaths in Colorado from "natural" prescription opioids vs. homicides

- Natural prescription opioids
- Homicide

Made with ChartBuilder Source: Colorado Department of Public Health and Environment

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THE DENVER POST

The Facts

- "The state tracks opioid prescriptions, but doctors aren't required to check the database"
- "The vast majority of states require clinicians to check the Prescription Drug Monitoring Program (PDMP) database before writing most opioid prescriptions"

Colorado drug-related hospitalization

Rates per 100,000 for 2015

- Prescription-opioid related: 15.24
- Benzodiazepine related: 14.58
- Heroin related: 2.98
- Cocaine related: 2.12

Source: Colorado Dept. of Public Health and Environment
The Denver Post

By JOHN FRANK | frank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

Made with ChartBuilder

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THE DENVER POST

The Facts

A crackdown on overprescribing isn't enough — drug treatment options remain a challenge.

According to policymakers, Colorado's initial efforts to restrict opioid prescriptions may have an unintended effect: pushing addicts to opioids such as heroin or fentanyl. The trend is spotlighting the limited treatment options for drug users who want help.

Colorado heroin-related overdose deaths
Heroin deaths have increased by more than 500 percent since 2006.

Year	Deaths
2006	37
'07	39
'08	45
'09	68
'10	46
'11	79
'12	91
'13	118
'14	151
'15	160
'16	228

By JOHN FRANK | frank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

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Doctors will soon get opioid prescription "report cards."

To educate doctors about the dangers of overprescribing opioids, Colorado is testing a relatively new idea that is showing early results — prescriber report cards.

The reports, also known as scorecards, will give clinicians a summary of their prescriber history and how they rank with their peers in the same specialty in terms of dosage, duration and type of drug.

Colorado opioid-related deaths
Rates per 100,000 for 2016

Category	Rate per 100,000
Male	11.3
Female	4.9
15 to 24 years	12.0
25 to 34 years	16.3
35 to 44 years	15.2
45 to 64 years	12.0
65+ years	4.2
White, non-Hispanic	9.6
White, Hispanic	0.3
Black/African American	4.0
Asian/Pacific Islander	1.2
American Indian	4.7

The Facts

- “The idea is that prescribers might be prescribing more than average for their particular specialty”
- “They’ll say ‘Oh, I better look at things more closely”
- “What we are hoping to see is a change in prescriber behavior”

By JOHN FRANK | frank@denverpost.com | The Denver Post
PUBLISHED: November 5, 2017 at 12:05 am | UPDATED: November 6, 2017 at 11:02 am

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Baltimore City's Response to the Opioid Epidemic

The Facts

The Baltimore City Health Department (BCHD) is dedicated to preventing overdose deaths in Baltimore City. Opioid overdose is a public health crisis. In 2017, Baltimore City saw 761 drug and alcohol-related intoxication deaths, 692 of which were opioid-related. This is more than double the number of people who died of homicide. Baltimore City now has the highest overdose fatality rate of any city in the United States.

Baltimore City Health Department

BCHD has a three-pronged strategy for combating the opioid crisis:

- Save lives with naloxone** — When administered to an individual experiencing an overdose, this prescription medication can take them from near death to waking and taking a breath of fresh air. The first step in getting the opioid crisis to its acute response is having fast, easy access to getting naloxone into the hands of first responders and bystanders who **know about our naloxone programs, including the State's standing order, where to get naloxone, how to get trained, and more — here.**
- Increase access to on-demand, evidence-based treatment** — BCHD promotes evidence-based medication assisted treatment (MAT), along with social and behavioral services to treat the disease of opioid addiction. **For more information on where to receive treatment, treatment programs and partnerships, and more, click here.**
- Fight the stigma of addiction through education** — Addiction is a disease. Similar to heart disease, addiction is preventable and treatable. **For more information on fighting the stigma of addiction and educational materials about addiction, click here.**

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Accrued September 16, 2019.

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Important Societal Questions

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Bill of Rights for People with Chronic Pain

Is the Current Climate Living up to Promises Made in the Past?

Does the chronic pain patient still have rights?

Is this a problem about chronic pain patients abusing prescription pain medications?

- The right to have your report of pain taken seriously and to be treated with dignity and respect by doctors, nurses, pharmacists and other healthcare professionals.
- The right to have your pain thoroughly assessed and promptly treated.
- The right to be informed by your doctor about what may be causing your pain, possible treatments, and the benefits, risks and costs of each.
- The right to participate actively in decisions about how to manage your pain.
- The right to have your pain re-assessed regularly and your treatment adjusted if your pain has not been eased.
- The right to be referred to a pain specialist or other healthcare provider if your pain persists.
- The right to get clear and prompt answers to your questions, take time to make decisions, and refuse a particular type of treatment if you choose.

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NEWS HEALTH

Chronic pain patients say they are hurt by Colorado's opioid prescription guidelines

Some Colorado doctors are refusing to prescribe opioids to chronic pain sufferers



David and Margie in their home. David is a patient of the University of Colorado Hospital. Photo by Jeffery M. Hirsch for The Denver Post. © 2019 by the Denver Post. All rights reserved. 10/22/2019 10:00 AM

The Clinical Implications

Now, across Colorado and the rest of the nation, these policies intended to address opioid abuse have unexpectedly harmed patients who depend on the drugs to treat chronic conditions, pain specialists and patient advocates say. The policies are supposed to offer guidance — helpful advice to doctors to be cautious in prescribing more than a certain amount of opioids to any one patient.

Officials at the Colorado Department of Regulatory Agencies are looking at revising the guidelines. The Colorado Consortium for Prescription Drug Abuse Prevention, a group of medical and drug experts, is also working on ideas to protect pain patients while cracking down on opioid abuse.



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Understanding the Epidemic

The Facts

Record Overdose Deaths | Heroin Use | Preventing Overdose Deaths

Drug overdose deaths in the United States continue to increase in 2015

- The majority of drug overdose deaths involve an opioid¹
- Since 1999 the # of overdose deaths quadrupled²
 - Prescription opioids
 - Heroin
- 108 Americans die every day from an opioid overdose

↓

~130 in 2019

1. Rudd RA, Seth P, David F, Schell L. Increases in Drug and Opioid-Involved Overdose Deaths — United States, 2010–2015. *MMWR Morb Mortal Wkly Rep*. 4P:46. 18 December 2016. DOI: <http://dx.doi.org/10.1093/mmwr.mm6520e1>
2. CDC. Widespread misuse data for opioid drugs: research (NORXDS). Atlanta, GA: CDC, National Center for Health Statistics; 2016. Available at <http://www.cdc.gov>.

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Understanding the Epidemic

The Facts

Record Overdose Deaths | Heroin Use | Preventing Overdose Deaths

Heroin use is trending up

- From 2002-2013, past month/year heroin use and addiction have all increased among 18-25 year olds¹
- Among new heroin users, 75% report abusing prescription opioids prior to using heroin²
- Heroin-related deaths more than tripled from 2010-2015
 - The largest increase was for those heroin-related deaths involving synthetic opioids - FENTANYL

1. Centers for Disease Control and Prevention. Demographic and Substance Use Trends Among Heroin Users — United States, 2003–2013. *MMWR* 2015. 64(2):719-725
2. Mahesh PK, Shriver JC, Davies C. Associations of nonmedical pain reliever use and initiation of heroin use in the United States. *CNSDRG Data Review*. 2013.

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The Facts: Times are Changing

The New York Times Short Answers to Hard Questions About the Opioid Crisis

- Characteristics of Opioid Drug Overdoses:
 - Fast
 - Deadly
 - Scary
 - Socioeconomic status – neutral
 - Abuse-history – neutral
 - Increasing exponentially

Source: National Center for Health Statistics, Centers for Disease Control and Prevention

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 Understanding the Epidemic

The Clinical Implications

Record Overdose Deaths Heroin Use **Preventing Overdose Deaths**

- Improved opioid prescribing
- Expanded access to substance abuse treatment
- Naloxone
- Prescription Drug Monitoring Programs (PDMPs)
- State-level strategies to prevent high risk prescribing and opioid overdoses
- Improved detection of illegal opioid use by law enforcement

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 Understanding the Epidemic

The Facts

Statistically significant drug overdose death rate increase from 2015 to 2016, US states

- Opioids (prescription *and* illicit) are main drivers
- 5 highest states:
 - West Virginia
 - Ohio
 - New Hampshire
 - Pennsylvania
 - Kentucky

Statistically significant increase

Statistically significant increase from 2015 to 2016

No
 Yes

SOURCE: CDC/NCHS National Vital Statistics System. Retrieved from <https://www.cdc.gov/drugoverdose/data/statedeaths.html>. Accessed January 20, 2018.

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The “Other” Epidemic

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Heroin

- Highly addictive
- It is an opioid
- Made from morphine
 - ~3 times more potent
- A natural substance
 - Extracted from the opium poppy plant
 - Asia
 - Mexico
 - Colombia

The Facts

PainWeek https://www.drugabuse.gov/what-are-heroin-facts/heroin Accessed January 22, 2018.

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Understanding the Epidemic

The Facts

- Heroin use has been increasing¹
 - Men
 - Women
 - Most age groups
 - All income levels
- Past misuse/abuse of prescription opioids is the strongest risk factor for starting heroin²

	2002-2007	2008-2012	% Change
SEX			
Male	2.4	3.0	80%
Female	0.8	1.0	100%
AGE YEARS			
18-24	1.8	1.8	100%
25-34	3.5	2.3	100%
35 or older	1.2	1.9	58%
RACE/ETHNICITY			
Non-Hispanic white	1.4	3.1	114%
Other	2.1	1.7	—
ANNUAL HOUSEHOLD INCOME			
Less than \$20,000	3.4	3.5	82%
\$20,000-\$49,999	1.3	2.3	77%
\$50,000 or more	1.5	1.6	60%
HEALTH INSURANCE COVERAGE			
None	4.2	6.7	60%
Medicaid	4.2	4.2	—
Private or other	0.8	1.3	63%

¹ Centers for Disease Control and Prevention. Vital Signs: Today's Heroin Epidemic – More People at Risk, Multiple Drugs Abused. MMWR 2015. ² Compton WM, Jones CM, and Ballow GT. Understanding the Relationship between Prescription Opioid and Heroin Abuse. NEJM.

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CDC 24/7 Saving Lives. Protecting People™

CDC Vital Signs July 2015

The Facts

The Heroin Epidemic

Heroin use is part of a larger substance abuse problem.

Nearly all people who used heroin also used at least 1 other drug.

Most used at least 3 other drugs.


Heroin is a highly addictive opioid drug with a high risk of overdose and death for users.

People who are addicted to...
 ALCOHOL 2x, MARIJUANA 3x, COCAINE 15x, OPIUM PRESCRIPTIONS 40x...
 ...more likely to be addicted to heroin.


Heroin Addiction and Overdose Deaths are Climbing

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 National Institute on Drug Abuse
Research Report Series

“The relationship between prescription opioid abuse and increases in heroin use in the U.S. is under scrutiny. These substances are all part of the same opioid drug category and overlap in important ways”




<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.
<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.

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 National Institute on Drug Abuse
Research Report Series


The Facts

- 2013-2015 research regarding prescription opioids and heroin showed:
 - Prescription opioid abuse *is* a risk factor for heroin use
 - Heroin use is *rare* in prescription drug abusers (<4% start within 5 years)
 - Although similar effects, risk factors are different
 - A subset of people who abuse prescription opioids may progress to heroin use
 - Availability of drug(s) is associated with increased use and overdose
 - Heroin use is driven by cost advantage and availability
 - Emphasis is needed on prevention and treatment



<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.
<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.


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 National Institute on Drug Abuse
Research Report Series

The Facts

- And...
 - “Analyses suggest that those who transition to heroin use tend to be frequent users of ***multiple substances*** (polydrug users)”
 - Jones CM. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers - United States, 2002-2004 and 2008-2010. *Drug Alcohol Depend.* 2013;132(1-2):95-100.

A + B ≠ C





<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.
<https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/introduction>. Accessed January 30, 2018.

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CDC Centers for Disease Control and Prevention
CDC/ATF/Sorting/Using/Preventing/Resolving

CDC Vital Signs July 2015

The Clinical Implications

Responding to the Heroin Epidemic

- Recommendations that impact us:
 - Screen and identify high-risk individuals
 - Treat people with substance abuse disorders
 - Naloxone

PREVENT
People From Starting Heroin

Reduce prescription opioid painkiller abuse. Improve opioid painkiller prescribing practices and identify high-risk individuals early.

REDUCE
Heroin Addiction

Ensure access to Medication-Assisted Treatment (MAT). Treat people addicted to heroin or prescription opioid painkillers with MAT which combines the use of medications (methadone, buprenorphine, or naltrexone) with counseling and behavioral therapies.

REVERSE
Heroin Overdose

Expand the use of naloxone. Use naloxone, a life-saving drug that can reverse the effects of an opioid overdose when administered in time.

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The Facts – The “F” Word

- Fentanyl
 - Originally developed as an anesthetic
 - One of the safest opioids
 - High LD50/ED50 ratio
 - More potent than morphine
 - 100 times more potent
 - More potent than heroin
 - 20-50 times more potent
 - NOT NEW

FENTANYL: Overdoses On The Rise

Fentanyl is a synthetic opioid approved for treating severe pain, such as advanced cancer pain. Illicitly manufactured fentanyl is the main driver of record increases in synthetic opioid deaths.

50-100x MORE POTENT THAN MORPHINE

More than 100 million doses being prescribed by 2014 (vs 20 million in 2012)

196% INCREASE FROM 2012 TO 2015

ILLICITLY MANUFACTURED FENTANYL

Although prescription sales have fallen, overdose associated deaths increased from 1,000 in 2012 to more than 10,000 in 2015, accounting for a large portion of synthetic opioid deaths.

SYNTHETIC OPIOID DEATHS ACROSS THE U.S.

73% INCREASE FROM 2010 TO 2015

264% INCREASE FROM 2010 TO 2015

67% OF ALL HEROIN DEATHS INVOLVED FENTANYL

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Heroin and Fentanyl: A “Perfect” Pair **The Facts**

- The overwhelming majority of the time fentanyl is paired with heroin
- To get a better “high”
- “Better” economic profile
- Things may be changing...
 - Watch for methamphetamines

DEPARTMENT OF JUSTICE • BUREAU OF INQUIRY AND COMMUNICATIONS
 OFFICE OF OVERSEER GENERAL

NFLIS
NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM

Special Report: Opiates and Related Drugs Reported in NFLIS, 2009–2014

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Note: Percentages may not sum to total because of rounding.

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Fentanyl

The Facts

- Drug seizures involving fentanyl increased dramatically between 2000-2016

Drug seizures containing fentanyl

Source: D.E.A. National Forensic Laboratory Information System

U.S. DEPARTMENT OF JUSTICE • BUREAU OF ENFORCEMENT ADMINISTRATION
DIVISION OF CONTROL SUBSTANCE
NFLIS NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM
NFLIS Brief: Fentanyl, 2001-2015
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Fentanyl

The Facts

- Defined geographic distribution

Figure 2 NFLIS regional trends in fentanyl reported per 100,000 persons aged 15 or older, January 2001–December 2015¹

Number of Fentanyl Reports per 100,000

Legend: West (■), Midwest (▲), Northeast (●), South (◆)

Note: U.S. census 2015 population data by age were not available for this publication. Population data for 2015 were reported.
¹A dashed trend line indicates that estimates did not meet the criteria for precision or reliability, including the 2002 estimate in the West and the 2001 estimate in the Northeast.

U.S. DEPARTMENT OF JUSTICE • BUREAU OF ENFORCEMENT ADMINISTRATION
DIVISION OF CONTROL SUBSTANCE
NFLIS NATIONAL FORENSIC LABORATORY INFORMATION SYSTEM
NFLIS Brief: Fentanyl, 2001-2015
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The Facts

The Chinese Connection Fueling America's Fentanyl Crisis

A vast network beginning in China feeds fentanyl, a deadly synthetic opioid, to the U.S., Mexico and Canada

By JEANNE WHALEN and BRIAN SPREGES
Updated June 21, 2016, 1:44 a.m. ET

Criminal Chemistry
It's the same molecule being synthesized often overseas; the key ingredient from China, which doesn't regulate its sale. Here's how the chemical building blocks become a highly profitable street drug

The key ingredient is NPP, 25 grams of which can be bought from China for about \$87

NPP can be combined with about \$700 of other chemicals to produce fentanyl

The resulting 25 grams of fentanyl cost about \$100

That's the same amount as up to 800,000 pills on the black market

Photo: David H. Johnson/Reuters; Source: FBI, U.S. Drug Enforcement Administration; THE WALL STREET JOURNAL


- Fentanyl can be manufactured anywhere
- Synthetic
- N-Phenethyl-4-piperidinone is NPP
- Intermediate precursor to fentanyl
- It is cheap
- It is not going anywhere

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Terminology The Facts

- A very small amount of fentanyl is potentially fatal
- This applies to **licit or illicit** fentanyl
 - Illicitly manufactured fentanyl is likely no more dangerous than legally manufactured fentanyl
- Fentanyl label:
 - FENTANYL CITRATE SHOULD BE ADMINISTERED ONLY BY PERSONS SPECIFICALLY TRAINED IN THE USE OF INTRAVENOUS ANESTHETICS AND MANAGEMENT OF THE RESPIRATORY EFFECTS OF POTENT OPIOIDS
 - AN OPIOID ANTAGONIST, RESUSCITATIVE AND INTUBATION EQUIPMENT AND OXYGEN SHOULD BE READILY AVAILABLE
 - Fentanyl may cause muscle rigidity, particularly involving the muscles of respiration
 - DIMINISHED SENSITIVITY TO CO₂ STIMULATION MAY PERSIST LONGER THAN DEPRESSION OF RESPIRATORY RATE



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A Fentanyl Crisis The Implications

In 24 of the nation's largest cities fatal fentanyl-related overdoses increased 600% from 2014-2016



The Washington Post

Fentanyl linked to thousands of urban overdose deaths

As the doses of the nation's largest cities, fentanyl's becoming a major part of the national opioid crisis.

By Heidi Lurie, Anne Schekman, Sam Scheer and Evelyn Lopera

Aug. 15, 2017

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Increasing Fentanyl Overdoses The Facts

FIGURE. Percentage of opioid overdose deaths testing positive for fentanyl and fentanyl analogs, by state — 10 states, July-December 2016

State	Fentanyl (%)	Fentanyl analog (%)
Oklahoma	~15	~5
New Mexico	~25	~5
Wisconsin	~35	~5
West Virginia	~55	~15
Ohio	~60	~25
Maine	~65	~30
Missouri	~65	~30
Rhode Island	~75	~5
Massachusetts	~75	~5
New Hampshire	~90	~15
Total	~60	~15

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Different Types of Fentanyl and Presentations

▪ Different formulations and varying potencies:

- Fentanyl
- Analogos
 - Acetyl Fentanyl
 - Oxycodone
 - Carfentanyl
 - Remifentanyl
 - Alfentanil
 - Sufentanyl
 - Fentanyl



▪ Presentations

- Powder
- Counterfeit pills
- Etc.



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Carfentanyl

The Facts

- Synthetic
- Large animal anesthetic
- 100 times more potent than fentanyl
- 10,000 times more potent than morphine
- Airborne/skin exposure often fatal
 - 2012 Moscow Theater Hostage Crisis



Members of the Russian Federal Security Service (FSB) in protective suits handle a large container of the elephant tranquilizer carfentanyl in June 2015. The photo is a copy of the original and is not necessarily the highest resolution version of the image. Credit: Reuters/Chris Wedel/Photo.com



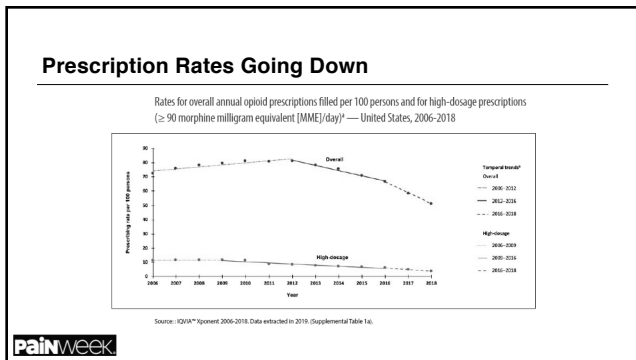
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The Facts

- Fentanyl in the wrong hands is deadly
- Potentially contributing significantly to overdose/fatal overdose risk
- Analogos not often tested for in routine toxicology testing
- Naloxone is a **bridge** to survival but not a final solution
 - Re-narcotization from fentanyl is common
 - Blunting of CO₂ response **will persist**
 - Diminished hypoxic drive may persist



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Centers for Disease Control and Prevention
MMWR
 Morbidity and Mortality Weekly Report
 Weekly / Vol. 68 / No. 34
 August 30, 2019

Changes in Opioid-Involved Overdose Deaths by Opioid Type and Presence of Benzodiazepines, Cocaine, and Methamphetamine — 25 States, July–December 2017 to January–June 2018

R. Max Glick, PhD¹, Julie O'Donnell, PhD¹, Christopher L. Simpson, PhD², Paul Scott, PhD²

**U.S. Department of Health and Human Services
Centers for Disease Control and Prevention**

3 Waves of the Rise in Opioid Overdose Deaths

Three major changes in opioid deaths from July–December 2017 to January–June 2018 were identified:

- Overall decreases in opioid overdose deaths
- Decreases in both prescription opioid deaths without co-involved illicit opioids and non-IMF¹ illicit synthetic opioids (i.e., fentanyl analogs and U-series² drugs) deaths
- Increase in IMF deaths, especially those with heroin, fentanyl analogs or non-opioid drugs
- At least one non-opioid drug (benzodiazepine, cocaine, or methamphetamine) was present in the majority of opioid deaths

1 IMF = Illicitly Manufactured Fentanyl
2 U-series drugs = AAN (and non-heroin)-related synthetic opioids with no authorized medical uses

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SUMMARY

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The Co-existing Opioid Crises

The Facts

Number of Overdose Deaths

Year

— Overdose Deaths from Prescription Opioids (Excluding Nonmethadone Synthetics)

— Overdose Deaths from Illicit Opioids (Heroin and Synthetic Opioids Other than Methadone)

PAIN MANAGEMENT AND THE OPIOID EPIDEMIC

BALANCING SOCIETAL AND INDIVIDUAL BENEFITS AND RISKS OF PRESCRIPTION OPIOID USE

FDA U.S. FOOD & DRUG ADMINISTRATION

PAIN MANAGEMENT AND THE OPIOID EPIDEMIC

BALANCING SOCIETAL AND INDIVIDUAL BENEFITS AND RISKS OF PRESCRIPTION OPIOID USE

Contributed by Pain Management and Regulatory Strategies in Medicine
Presented at PainWeek 2016

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We didn't Start the Fire...Or did We?

- Significant controversy exists to the relationship between prescription opioids and the heroin/fentanyl epidemic
 - Tracking back to prescribers
 - The 1990s when opioid prescribing increased
 - Pain being designated as the “5th vital sign” in 2000
 - Pain Bill of Rights
 - Evolution of “pill mills”
 - Related to cost and availability
 - Heroin and fentanyl are cheaper and stronger

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Who and What is Our Responsibility?

We Are Involved Like it or Not

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Does the United States Own The Problem??

- We are not alone
- This *is* a global issue
- In 2015, approximately ¼ billion people abused/misused drugs
 - ~ 29.5 million (0.6% of global adult population) engaged in problematic use/suffered from substance use disorder
- 70% of the global burden of disease caused by drug use disorders attributable to opioid use

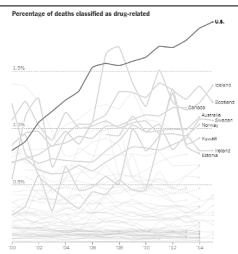


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However... The Facts

Drug-related deaths remain highest in the U.S.

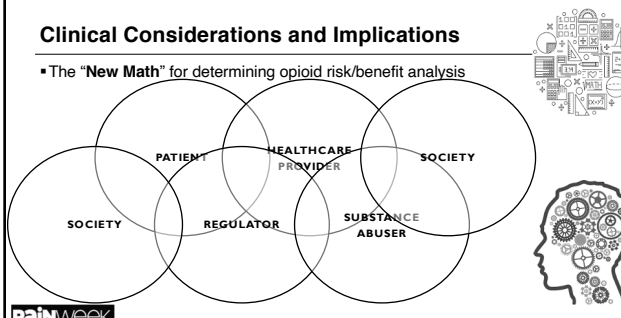


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Clinical Considerations and Implications

- The "New Math" for determining opioid risk/benefit analysis



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Final Thoughts

- We must consider the parallel "opioid" crises that exist today
 - Our role in these problems
- Heroin and fentanyl are not going anywhere
- Remember the "New Math"
- Naloxone is likely something to keep top of mind
- Avoidance of "risky" situations is critical
- Strongly consider and document appropriate candidates for fentanyl-based therapies
- DO NOT CO-PRESCRIBE OPIOIDS and BENZODIAZEPINES
- Everyone is looking at us as an integral part of solving the "other" opioid crisis
- Everyone is looking to us to be a part of the solution to both crises



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Final Thoughts

But... Let's not make patients "pay" for the other crisis



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"Cure sometimes, treat often, comfort always."
— Hippocrates

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Questions?
